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Abstract
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Introduction

Increasingly, offshore outsourcing has become a popular choice for Information Systems (IS) activities with media reports of success stories and significant cost savings. Despite this surge, a growing list of firms has reported failures and disappointments[1]. This dichotomy, with failures on the one side and resoundingly successful experiences on the other, suggests possible problems in the organizational capabilities essential for successful offshore outsourcing. Many firms simply lack the critical capabilities for offshore outsourcing.

IS offshore outsourcing calls for a distinct set of capabilities as compared to domestic outsourcing for several reasons. First, firms engaging in offshore outsourcing have to contend with language barriers, cultural issues and time zone multiplicities[2] *in addition to* differences in organizational cultures.[3] Second, offshore efforts could cause major changes to the internal IS and business units more than domestic outsourcing[4]. The internal IS unit and end-users face a challenging situation of working with an offshore team that is culturally diverse and complex[5]. Third, offshore outsourcing also involves risks with respect to loss of core knowledge and vendor opportunism that is compounded by the distance separating the client and vendor. This issue assumes additional importance due to differences in legal systems and laws across different countries. Concerns such as data security and privacy, intellectual property protection and methods of dispute resolution become acute[6].

Such challenges associated with offshore outsourcing (Table 1 provides a detailed list) provoke questions on the capabilities required for successful offshore outsourcing. For most firms, successful design and execution of offshore outsourcing arrangements can be extremely difficult,

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[1] See Marquis, H.A "Finishing Off IT", Sloan Management Review, Summer 2006, 47(4), pp. 12-15. For anecdotal reports of offshoring failures, see Overby, S. "The Hidden Costs of Offshore Outsourcing," CIO.com, September 2003 and Overby, S. "Offshore Outsourcing: The Three-or-four Year Itch," 2006.

[2] Espinosa, J.A., Cummings, J.N., Wilson, J.M., and Pearce, B.M. "Team Boundary Issues across Multiple Global Firms," Journal of Management Information Systems (19:4), 2003, pp. 157-190.

[3] Kliem, R. "Managing the Risks of Offshore IT Development Projects," Information Systems Management (21:3), 2004, pp. 22-28.

[4] King W.R. "Outsourcing and the Future of IT." Information Systems Management, Fall 2004, (21:4) pp. 83-84

[5] Brett, J; Behfar, K and Kern, M.C.."Managing Multicultural Teams.", Harvard Business Review, Nov2006, 84(11), pp. 84-91,

[6] Carmel, E., and Tjia, P. (eds.). Offshoring Information Technology: Sourcing and Outsourcing to a Global Workforce, Cambridge University Press, UK, 2006.

unless deliberate investments are made to build specific capabilities. The goal of this article is to identify and understand the critical capabilities required for effective offshore outsourcing so that executives can evaluate and build those capabilities needed to ensure value from their offshore initiatives. Based on interview data from 18 companies, we identified ten critical capabilities that we then categorized into four higher-order categories (see Figure 1). In this paper we use selected instances from companies that were successful, as well as those that "muddled through," to illustrate and substantiate the importance of these ten capabilities. We conclude with a summary list of routines for each capability, as well as a checklist that CIOs can use to gauge their organization's level of offshore outsourcing capabilities.

Capabilities-Thinking

Capabilities-thinking has recently become a popular paradigm to understand and explain the fundamental drivers of firm performance[7]. Specifically, capabilities-thinking focuses on identifying and nurturing a set of capabilities essential for bettering business performance, at the corporate level as well as at a specific functional level. For example, Feeny and Wilcocks[8] identified nine core capabilities for managing the IT function, which included a set of four capabilities pertaining to IS outsourcing. More recently, they extended this paradigm to the arena of IS vendors and specified twelve competencies for IS service providers[9]. Levina and Ross' research on vendor capabilities also lends credence to the notion of outsourcing capabilities[10].

In our own research we used the capabilities-thinking paradigm to build a framework of critical capabilities for offshore outsourcing of IS application development where the tasks are distributed across on-site and offshore locations[11]. We complement other published studies that have documented offshore

Table.1 Common Challenges in Offshore Outsourcing

➢ Turbulence due to geo-political environment

➢ Mismatch in national and organizational cultures, values and norms

➢ Protection of proprietary information and intellectual capital

➢ Imperfect information about offshore vendors

➢ Unrealistic expectations on cost savings

➢ Time-zone multiplicities across different global locations

➢ Activity-based collocation of client and global vendor team members

➢ Knowledge transfer difficulties to and from global team members

➢ Layoffs and loss of human capital

➢ Disruption of work practices for end-users

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[7] Eisenhardt, K.M., and Martin, J.A. "Dynamic Capabilities: What are They?," Strategic Management Journal (21:10), 2000, pp. 1105-1121; Ulrich, D and Smallwood, N. "Capitalizing on Capabilities". Harvard Business Review. June 2004, pp. 119-127.

[8] Feeny, D.F and Willcocks, L.P. "Core IS Capabilities for Exploiting Information Technology", Sloan Management Review, Spring 1998, pp. 9-21.

[9] Feeny, D., Lacity, M. and Willcocks, L. "Taking the Measure of Outsourcing Providers", Sloan Management Review, Spring 2005, 46(3), pp. 41-48.

[10] Levina, N., and Ross, J. "From the Vendor's Perspective: Exploring the Value Proposition in Information Technology Outsourcing," MIS Quarterly (27:3), 2003, pp. 331-364

2

experiences[12] and some best practices[13]. However, our point of departure from these studies lies in our attempt to both catalog and calibrate a fairly comprehensive set of capabilities.

Offshore Outsourcing Capabilities Explained

IS offshore outsourcing capabilities are defined here as "*a set of organizing processes a firm uses to exploit internal and cross-border IS resources to achieve its offshore outsourcing objectives.*" By shaping the ways in which firm-specific and vendor-related skills, knowledge, technical and human resources are coordinated and managed, these capabilities fundamentally determine the effectiveness of a firm's offshore sourcing efforts.

There are two ways by which firms develop organizational capabilities. First, the capabilities can be developed from organizational experiences accumulated from the past. The intricacies and accretions over time guarantee that these capabilities will be difficult to develop or imitate by others. Second, the capabilities not only result from past experiences, but gained through deliberate investments made in organizational structure, routines and processes. In the case of IS offshore outsourcing, the critical capabilities could simply unfold from a firm's past sourcing experiences, or a firm could make deliberate investments in building these capabilities. For example, Kaiser and Hawk (2004) narrate a case study of a financial services firm that made deliberate investments to develop competencies for offshore outsourcing. In addition, a firm could learn, gain and assimilate these capabilities based on their interactions with IS vendors or service providers. Irrespective of the route taken, IS executives need to be aware of, and pay attention to, the specific set of capabilities that will facilitate their journey, and provide distinct advantages in their offshore endeavors.

IS offshore outsourcing capabilities – *the collective skills, abilities and expertise of an organization to excel in offshore outsourcing* – typically stem from firm-specific investments in *and* accumulated experiences to learn, coordinate and manage diverse cross-border IS resources. There is no magic list of capabilities that is applicable to every organization. However, our research (see sidebar on *Research Process Overview*) has helped identify ten critical capabilities (Figure 1) that are required to capitalize on offshore provider's ability to deliver cost-effective IS services and to fortify the achievement of offshore outsourcing goals.

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[11] There are alternate model of IS offshoring such as offshore-insourcing through captive centers or on-site staff augmentation using offshore developers. Our study focuses on the widely-used hybrid onsite-offshore model where offshore personnel and outsourced tasks are distributed between on-site client setting and offshore vendor locations.

[12] Kaiser, K.M., and Hawk, S. "Evolution of Offshore Software Development: From Outsourcing to Cosourcing," MIS Quarterly Executive (3:2), 2004, pp. 69-81.

[13] Rottman, J., and Lacity, M. "Proven Practices for Effectively Offshoring IT Work," Sloan Management Review (47:3), Spring 2006, pp. 56-63
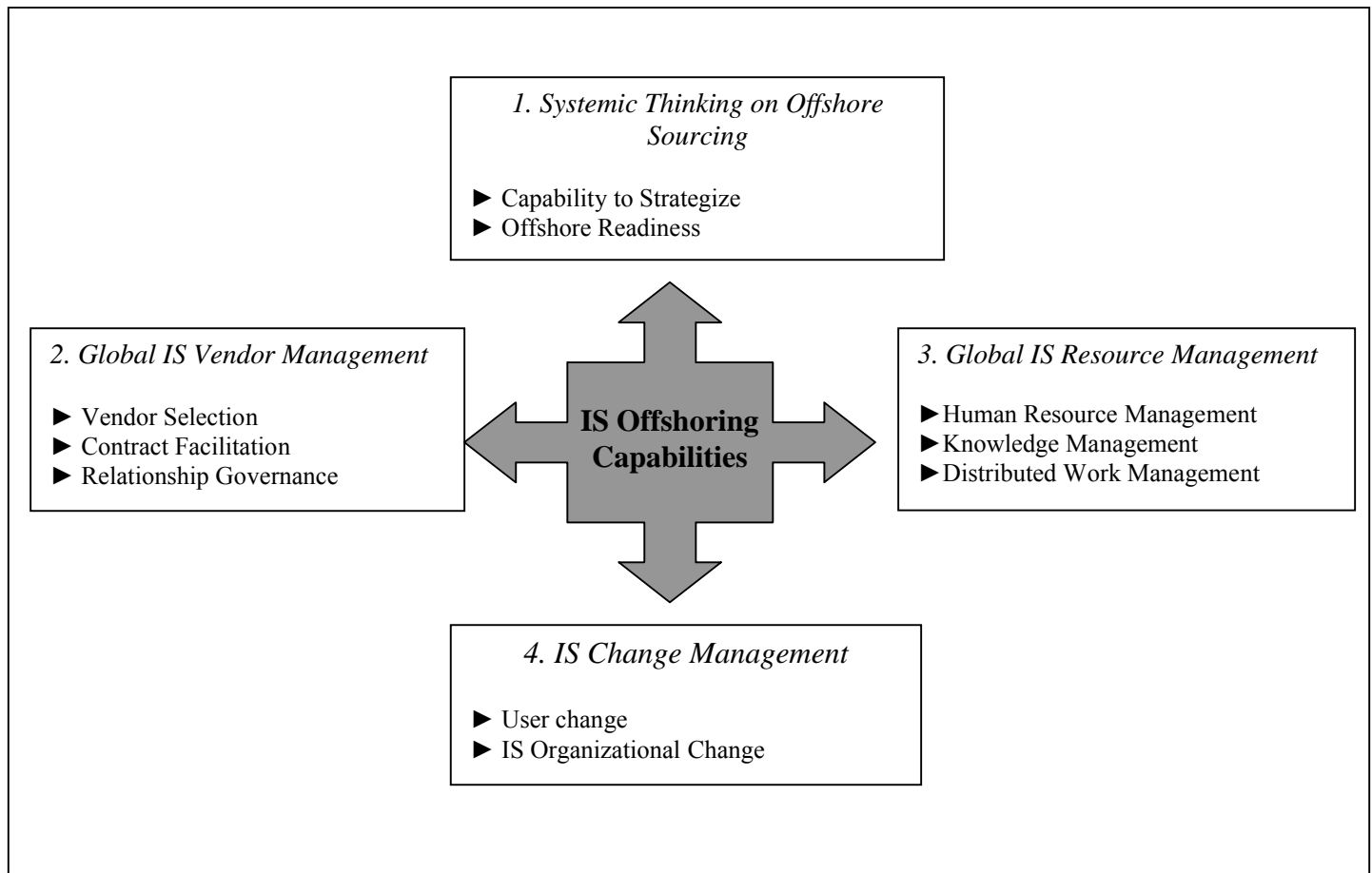
3

Figure.1. Capabilities-Framework for IS Offshore Outsourcing

Research Process Overview

We identified and explored the key capabilities for IS offshore outsourcing through a two-phased research study. In the first phase, we conducted focus-group discussions with IS executives and sourcing experts. In the second phase, we used case studies developed through in-depth interviews from eighteen firms. The focus-groups were conducted in Spring 2004, and the case study interviews progressed over three years from 2004 through 2006. A profile of firms that we studied is provided in the Appendix. Our interviews included firms that have been fairly to highly successful in exploiting offshore outsourcing *(marked as 'effective' firms in the Appendix),* with demonstrable outcomes such as cost savings, benefits realized, project metrics, satisfaction with offshoring, as well as firms that had relatively poor success with offshoring *(marked as 'Ineffective' in the Appendix).* The ineffective cases had either terminated their offshore contracts or expressed disappointments with offshore development, or had failed to meet their offshore goals. Studying both effective and ineffective cases helped us compare and contrast the presence and absence of offshoring capabilities and how contributed to offshoring outcomes.

1. Systemic Thinking on Offshore Sourcing

Firms that excel in offshore outsourcing conceive and develop high-level strategic thinking about offshore outsourcing. We designate this capability as 'systemic thinking on IS offshore sourcing'. It involves the capacity to identify a relevant desired state for offshore outsourcing, assess the current state and then establish and navigate the appropriate path of transitions required to reach the desired state. Through systemic thinking, firms can explore connections between their IS-business strategies and formulate appropriate sourcing responses. Systemic thinking manifests in a host of processes and routines such as opportunity recognition, goal setting, winning stakeholder support and providing an overall direction for the offshore efforts. Feeny and Wilcocks include 'Informed Buying' ("managing a sourcing strategy that meets the interests of business" p.14) as a core capability in their general IS capability framework and here we build on it to focus specifically on offshore outsourcing. Our field-work revealed two specific competencies that comprised systemic thinking: *capability to strategize* and *offshore readiness*.

Capability to Strategize: This capability involves establishing an overall direction for a firm's offshore sourcing efforts. Firms with this capability look beyond the cost-advantages and view offshore sourcing as a more strategic opportunity[14]. Firms with the capability to strategize develop basic principles that guide the entire offshore sourcing effort. These principles provide a framework for the offshore outsourcing endeavors and aid in critical decisions such as what to offshore, where and so on. One of the senior managers in our focus-groups remarked:

> *"For offshoring, one needs to frame a few basic principles - you don't want to have something that is only applicable for that problem- the guiding principles should be almost like a religion – a company needs to really believe in that and share the same perception. For example, one could have a basic dictum on what kind of work can go offshore, what to do with mission critical work etc."*

Many firms we studied had prepared a blueprint for identifying candidates appropriate for offshore development. Firms used a variety of ways to classify and prioritize the candidates for offshore outsourcing. A consulting firm (ConsultCo) used a simpler dichotomous (core / non-core) grouping whereas other firms had developed more sophisticated schemes. For instance, a three-dimensional matrix incorporating the strategic/non-strategic nature of the application, potential business impacts along with associated costs was used by an insurance company (AInsuranceCo – see sidebar). Another retail firm (RetailCo) categorized systems as 'sunset', 'mainstream' and 'emerging' based on the technological platforms, and used this classification to pick candidates for offshore outsourcing.

Firms with a capability to strategize view offshore outsourcing as a *business* initiative involving senior and business managers, rather than as a pure IS/IT effort. For example, ConsultCo has for many years outsourced some of its IS activities to local vendors. However, when the company started moving a big chunk of IS work offshore, it developed a set of sourcing tenets, that were jointly developed by senior managers and IS executives.

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[14] Cullen, S., Seddon, P., and Willcocks, L. Managing Outsourcing: The Life Cycle Imperative, MIS Quarterly Executive (4:1), 2004, pp. 229-246.

5

"Earlier, we approached outsourcing on a project by project basis. However, when we started offshoring, we developed a more systematic approach. We sat down with the business people and our senior management and came up with a 'portfolio-thinking'. It is a more holistic approach to sourcing – to balance the risks and rewards of doing projects internally, staffing locally, outsourcing or near-sourcing, offshoring. The portfolio-thinking guides us in making our offshoring decisions."[ConsultCo]

How an Insurance Firm Strategized its IS Offshore Outsourcing Efforts

The IS organization at a large North American life insurance company (with about 4400 total employees) was making the transition from being a sole provider of IT services to being a service broker. This transition was stimulated by a need to become more responsive, more flexible and to comply with changes induced by digitization efforts by entire insurance industry. It was clear that due to cost and availability considerations, offshore outsourcing should be considered, along with utilizing internal resources. However, getting the lowest price in offshoring was less important than being a fit with the overall IT strategy. Their mantra for offshoring was, 'You may move for the price, but can you afford the cost?' As one senior executive observed,

> *'To me, that's the issue with getting the lowest price upfront. It doesn't mean that you are doing the right thing in the long-term for the company'.*

This resulted in the development of a three-dimensional matrix, with the three axes being: 1) nature of the application (strategic/non-strategic), 2) potential business impacts and 3) associated costs. This matrix was then used to decide on applications to offshore.

Offshore Readiness: Offshore readiness reflects on a firm's ability to prepare its internal organization to undertake offshore activities. From our field research, we found that the effective companies conducted an orderly assessment of their internal IS activities, set realistic goals, and generated buy-in from key stakeholders. Many firms that we talked to built their readiness through pilot projects that helped them learn and prepare themselves to engage in offshore efforts. For instance, ServiceCo engaged in a *proof-of-concept* pilot project to get first-hand experience in offshore development and uncover potential issues. Apart from helping them learn, pilot projects helped effective firms generate visibility for offshore outsourcing, win the support of organizational stakeholders, and create a favorable mindset in the organization. The initial experience from pilot project gave a first-hand exposure to the challenges in offshore development, providing an opportunity for firms to build specific routines, as the following quote illustrates:

> *"In the initial stages we started out on a very small scale. It wasn't really need driven i.e. not trying to drive down budget. But it was more of recognizing a [offshore outsourcing] trend that was growing, and trying to get a little*

6

experience in the area and see whether it was a valid model for us to use at all."[HomeRetailCo]

While most of our case study firms prepared themselves before engaging in offshore outsourcing, a few had underestimated its importance. Some of the firms had built up high expectations without gauging the actual effort involved in undertaking offshore outsourcing. A retailer firm (MarketCo) had disappointing results from offshore development of its e-commerce portal. The company had very little idea about the costs and efforts involved in offshore outsourcing to start with, as illustrated by the following remark by its IS manager.

> *"The vendor was hired in January- February timeframe, and had to have the entire product operational in June, that is, within 4 months. Looking back, I think we expected miracles then." [MarketCo]*

In another case, a manufacturer was engaged in procuring some components from offshore suppliers. Given its experience with procuring manufacturing items, the company felt it could use the same principles for offshore systems development. However, its experience proved to be unsuccessful.

> *"We had outsourced manufacturing of products, and considered outsourcing an important business strategy and decided to go offshore for developing systems. It didn't need a great deal of analysis. We thought offshoring here [in IS] will work because it worked for manufacturing." [ManufactureCo]*

2. Global IS Vendor Management

Finding, developing and managing an offshore vendor are key activities in a successful offshore outsourcing endeavor. Executives need to skillfully scan and identify partnering opportunities with offshore vendors and identify appropriate mechanisms to coordinate the activities in the relationship.[15] The dynamics of managing vendor relationships become even more fundamental in offshore outsourcing, since the relationship encounters greater challenges such as cultural differences, property rights protection and other geographical/demographic variations. Kaiser and Hawk (2004)[16] note that the differences in time zones, language, technical training, and ethnic and corporate cultures create a "layer of work not necessary with domestic outsourcers" (p.80).

Our case studies indicated three distinct sub-capabilities for managing global IS vendors: *vendor selection*, *contract facilitation* and *relationship governance*. Capabilities in our framework build

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[15] McFarlan and Nolan (1995) note managing a vendor partnership as "the single most important aspect of outsourcing success" (p.20). McFarlan, W.F., and Nolan, R. "How to Manage an IT Outsourcing Alliance," Sloan Management Review (36:2), Winter 1995, pp. 9-23.

[16] Kaiser, K.M., and Hawk, S. "Evolution of Offshore Software Development: From Outsourcing to Cosourcing," MIS Quarterly Executive (3:2), 2004, pp. 69-81.

7

on and extend the three IS delivery capabilities – contract facilitation, contract monitoring and vendor development, identified by Feeny and Willcocks, for an offshore outsourcing context.

Vendor Selection: Having a standardized process for offshore vendor selection is important for two reasons. First, it guarantees systematic elimination of potential client-vendor mismatches. Second, it provides the client firm with adequate information upfront about the offshore vendor. This information can be used to reduce search costs for future projects[17] or for handling disruptions that might arise during the course of the relationship.

> *"Working with an offshore vendor adds interesting dynamics. First of all, one may not have as much information about these vendors. Identifying and evaluating them [offshore vendors] requires different approach from what one is used to. We have to be able to look at a range of information about the vendors – their reputation, CMM level, clientele list, and references from colleagues. More information might come from site-visits to their premises. After all these steps, we get a first-hand assessment by giving them a small pilot project and getting to know them more closely."[DrugCo]*

Our research pointed out specific investments made by firms in scanning the offshore market to identify potential vendors from multiple offshore destinations. A variety of criteria were used such as the vendor's technical skill set, flexibility, delivery models, pricing structures, industry know-how, internal processes, standards and certifications such as CMM levels and location-specific risks to screen the offshore vendors. Most firms also engaged in onsite-visits to get first-hand information on the vendor's facilities, infrastructure and business practices. While many effective firms preferred to work with tier-1 offshore vendors, a few firms preferred to work with lesser-known offshore vendors, as these firms perceived a "better fit" with them.

For selecting their vendors, some clients like StateAgency and DrugCo evolved a detailed set of criteria for vendor assessment and used request-for-proposals (RFPs) to screen their offshore vendors. They used multiple methods to gather information about the vendor - including detailed site visits, referrals from clientele, and experimenting with a few vendors on pilot projects[18]. In contrast, some firms did not engage in detailed assessment of potential offshore partners and a few firms, like GardenCo (ineffective firm) even ignored negative signals that emerged from their pilot project experience:

> *"The pilot project was not good. I remember seeing "bombs" in the program that exploded with annoying messages, when somebody opened the website... We didn't know about them earlier." [GardenCo]*

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[17] Carmel, E., and Nicholson, B. "Small Firms and Offshore Software Outsourcing: High Transaction Costs and their Mitigation," Journal of Global Information Management (13:3), 2005, pp. 33-54.

[18] Rottman, J., and Lacity, M. "Twenty Practices for Offshore Sourcing," MIS Quarterly Executive (3:3), 2004, pp. 117-130.

Although GardenCo realized that the vendor did not perform to their expectations during the pilot project, it decided to pursue the relationship instead of inviting proposals from other vendors, with a less than positive result.

Contract Facilitation: Contracts provide a mutually agreed upon platform that specify a range of accepted behaviors in an outsourced relationship. Contract facilitation reflects on a firm's ability to choose and design contractual agreements that align the expectations of both the partners. It involves routines that aid the firm in deciding on a number of contract-related elements – whether to use a standard form or design a new one, type of contract to be used, what to include in the contract, and the parties to be involved in negotiations. The differences in the legal systems and laws across countries, as well as the spatial, temporal and cultural gaps between the client and offshore vendor, intensify the innate challenges in contract design, demanding comprehensive and extensive contracts.

We found that effective firms invested in specific routines for contract facilitation. Standard contract templates were developed that were later customized according to the needs of the specific offshore project. For instance, DrugCo and RetailCo spent several months to frame their initial offshore contracts. Once they had a standard contract in place, they used it repeatedly in subsequent offshore engagements. Some firms like HomeRetailCo and ConsultCo chose to award a small project on a fee-for-work basis before developing a comprehensive contractual agreement. These firms also had 'exit clauses' that facilitated easy termination if the relationship did not work out as anticipated.

Detailed dispute resolution mechanisms and stipulations to address the international nature of the offshore work were incorporated by effective firms. These companies also pieced together a cross-functional team of legal and IS managers to negotiate the broad contractual agreement. IS managers with technical expertise on software development were involved in drawing service level agreements and in specifying expected outcomes. For example, some firms (RetailCo, CreditCardCo) constituted a distinct contract design team comprising of legal, functional and IS experts to frame and negotiate the offshore contracts. In some cases, firms used external legal counsel to advise them on offshore contract design.

Due diligence, attention to detail, and involvement of IS and functional expertise were hallmarks of the contract building process in effective firms. (See Table 2 for some of the key areas covered in offshore contracts.) Less effective firms, on the other hand, lacked structured processes for contract design. The specifications were either incomplete or wrongly specified, and the performance expectations were unclear. For instance, ServiceCo utilized a standard contract, but did not customize it to the specific needs of the project, which led to confusion about expected outcomes. In another case, GardenCo faced hurdles in its offshore efforts due to a loosely defined contract, as illustrated by the following quote.

> *"The contract had problems - the wrap[up]s and norms were not clear, there were problems in scope of work and the project expanded beyond what it was originally anticipated to do. The agreement didn't clearly specify the expectations. When we had a problem, each party interpreted the stipulations*

differently. We said we won't pay because they [vendor] didn't do what was expected, and they said they did what was told to them." [GardenCo]

Table. 2
Key Areas in Offshore Contracts
• Definition of work schedules (including time zones, holiday schedules at offshore locations)
• Distribution of onsite/offshore resources at various stages of projects
• Documentation standards
• Skill requirements of offshore staff and ways to address vendor staff attrition
• Stipulations for handling subcontracted work
• Vendor representation and reporting
• Payment terms (currencies, schedule of payments, frequency of payments etc.)
• Penalties, bonuses/rewards
• Stipulations for dispute resolution procedures
• Jurisdiction for resolving disputes (in client's country rather than the offshore destination)
• Security and confidentiality of client data
• Intellectual property rights

Relationship Governance: Relationship governance refers to the competencies for managing the ongoing relationship with the offshore vendor. To effectively collaborate with an offshore vendor, firms need to establish joint-teams, tasks forces, and committees; inter-firm coordination through periodic reviews and meetings; assignment of onsite/offshore managers; mechanisms for shared decision making; and formal systems for conflict resolution relying on two-way communications and collaborative problem solving.

The effective firms in our sample utilized a variety of formal and informal structures and organizational processes for overseeing and coordinating the relationship with their offshore vendor. Less effective firms, on the other hand, failed to invest in such structural mechanisms and routines. For instance, MarketCo did not reap the desired benefits from offshore outsourcing primarily due to improper governance. Despite developing a comprehensive contract, the lack of executive-level structures to ensure a smooth relationship and conflict resolution led to failure. Similarly, in the case of ManufactureCo, senior executives were not involved in governance efforts from the outset of offshore outsourcing efforts. Joint-teams were established with operational IS staff but with little executive guidance and monitoring. Ultimately, this translated into irregular meetings, unclear understanding of executive viewpoints on offshore sourcing, and inadequate communication with senior level executives that subsequently led to poor outcomes.

"The vendor did not provide monthly reports nor did we explicitly ask for them. Also, there was not much involvement from both sides. We thought we had handed over the job and they'll do it. If I had to do it again, I would insist on higher level executives to be involved from day one. We should have established joint groups and committees to ensure that the work progressed well." [ManufactureCo]

In contrast, effective firms had multi-level management structures, with clear lines of communication and coordination, interfaces with vendor counterparts at each level, well-established escalation paths, and well-documented roles for both the client and vendor teams. These firms had assembled multiple teams that spanned the hierarchy from senior-level executives to project-level staff. Such teams and committees weren't merely a forum for discussions but they provided a space where disagreements could be aired and conflicts resolved more openly. This ensured continuous alignment of offshore outsourcing activities with executive goals, in addition to bringing clarity on vendor accountability and decision rights. Further, their governance facilitated better interactions between vendor and client personnel at both strategic and operational levels, as the following quote illustrates:

"There is a steering committee that oversees and interacts with the vendors. There is a team project approach, with involvement at multiple levels. The progress is evident, you can see people excited about it... We know each other well and there is a better rapport at all levels." [MediCo]

In addition, effective firms used a variety of means to foster trust based relationships and worked collaboratively on issues that emerged during the course of relationship. One such tactic was the use of *boundary-spanners* whose roles straddled two or more groups – often business and technical groups. These boundary-spanners acted as conduits between the two groups, due to their understanding of both the technical and business aspects of an application. They served the dual purpose of specifying technical details to a software developer, and at the same time, providing the CEO/CIO with a high-level picture of the offshore program's progress. AInsuranceCo for instance, assigned a specific relationship manager to interact with the vendor and constantly monitor the day-to-day relationship. The function of this boundary-spanner was two-fold: a) to provide oversight to the arrangement and b) to build long-lasting relationship with the vendor counterpart.

"We met every week. From the very beginning, we assigned a relationship manager whose job was to be on top of things with the vendor, and insisted on a similar counter-part relationship manager who had a local presence. On a monthly basis we would get a briefing. Then on a quarterly basis, we have discussions with the US head about future plans." [AInsuranceCo]

RetailCo established an IT sourcing office to oversee all of its offshore and domestic sourcing efforts. The office was directly placed under the CIO with selected senior IT/business executives. These managers had diverse backgrounds, had connections to many employees outside their own work environment and had work history of operating in diverse environments. These individuals acted as boundary-spanners and worked with IS units, functional areas, as well as vendors to

11

plan, assess and monitor the sourcing activities. Similarly, HomeRetailCo created a project management office (PMO) to set project standards and oversee a series of internal and outsourced projects. The PMO included hand-picked individuals who not only had project management experience but also had diverse functional expertise so that they could liaison between business, technology and vendor groups.

3. Global IS Resource Management

As organizations try to exploit cross-border IS resources, the ability to integrate and leverage internal IS resources with those of the offshore vendor becomes important. Managing globally distributed resources requires specific competencies that a firm needs to develop and sustain. For instance, managing and integrating internal IS human resources with vendor resources demands client firms to develop abilities to understand ethnic and corporate cultures, appreciate individual psychological variations and work routines that accommodate cross-cultural diversities. Firms can use specialized tools (e.g., collaboration tools, software configuration management; group-ware etc.) to effectively coordinate distributed resources. Similarly, specialized routines are vital for knowledge exchange and knowledge transfer between the client and offshore vendor. Our case studies pointed to three sub-capabilities that comprise the global IS resource management competence: *human resource (HR) management*, *knowledge management* and *distributed work management*.

HR Management: Offshore application development is a highly knowledge-intensive and service-intensive activity. Both the client and offshore vendor's human resources play a central role in carrying out offshore project work. HR management capability refers to a firm's capacity to identify, acquire, develop and deploy the internal and offshore personnel for achieving the sourcing goals. We found many effective firms to possess specific organizational processes for identifying and assessing the offshore staff to be included in the project team. Rather than solely relying on the information provided by the vendor, many effective firms engaged in interviewing offshore candidates to assess their fit with the project requirements.

Effective firms proactively planned the HR allocations at different stages of offshore project. This helped them maintain a dedicated core team throughout the project with the flexibility to expand the team depending on the requirements at different stages of the project lifecycle. For instance, DrugCo continuously monitored the balance of onshore and offshore personnel. The decision to include or move the personnel was based on the requirements of each stage. Similar capabilities were found in HomeRetailCo and other effective firms, where proportioning the onshore-offshore resources were specified.

> *"We work out the proportion of onsite-offsite resources with the vendor. We found that a ratio of at least 1: 3 onsite-offshore is essential to realize cost savings. However the ratio changes as the project progresses across various phases." [HomeRetailCo]*

Some of the firms also had routines to physically integrate the vendor and internal IS staff together. Apart from inspiring group and individual cooperation among the team members, such an integration capability aids in conflict management at an operational level. Firms like

GlobalRetailCo had joint-teams and involved vendor staff in their task forces and committees to develop a closer relationship. This helped foster closer collaboration, reduce potential mistrust and diminish the importance of differences in status between client and vendor personnel.

Knowledge Management (KM): A KM capability for offshore outsourcing refers to a firm's ability to create, transfer, integrate and leverage related knowledge across the firm and the offshore vendor. There are two types of knowledge that are common in offshore outsourcing: *technical knowledge* pertaining to the systems, technologies and tools; and *business knowledge* related to business processes, organizational functions and industry know-how. A client firm needs to carefully assess the extent to which it needs to share its internal knowledge with the offshore vendor, in addition to developing mechanisms for knowledge transfer[19]. A client firm has to identify appropriate organizational levels for knowledge exchange and transfer. In particular, transferring specific business knowledge to the technical developers in the offshore team can be difficult and challenging.

We found effective firms to have developed specific capabilities for partitioning, transferring and integrating both technical and business knowledge with the offshore vendor. ServiceCo identified industry experts in the offshore vendor who had experience in their specific business context and got them involved in the initial stages of the application development. They utilized these experts to help transfer knowledge to their team members.

> *"Our approach is to bring some of their level 3 leaders. This we refer to as a functional leader - a subject matter expert. We would bring them [in], transition knowledge to them, to take back to their [offshore] work force."* [ServiceCo]

Different stages in an offshore project call for varied mix and levels of technical and business knowledge. The requirements gathering phase typically demands more knowledge of organizational functions and industry environment, compared to a software testing stage. In the initial stages of the offshore arrangement, greater knowledge transfer between the client and the vendor occurs, which implies collocation of more client and vendor personnel. In later stages, as the necessity for knowledge transfer decreases, collocation can be substituted by other forms of communication. In addition, the disparate slices of technical and business knowledge held by various internal and external offshore team members should be integrated for application development to be complete.

> *"Our vendor brought his team inside for 4 months for knowledge transfer. Subsequently we asked the vendor to school us on knowledge transfer. We would benefit from the knowledge transfer process because we are a corporate function, and we needed to work with our own divisional clients too. We actually picked up a lot of new skills."* [DrugCo]

Distributed Work Management: Lack of collocation, coupled with the spatial, temporal and the cultural diversities among the offshore team members necessitate that firms develop explicit

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[19] Overby, S. "Secrets of Offshoring Success", CIO Magazine, Feb 1 2007, pp.1.
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routines to mange distributed work in an offshore project. Executives in successful firms deployed tactics specifically targeted at the challenges caused by the diversities in the offshore project team. For instance, GlobalRetailCo conducted special workshops for its end-users and IS personnel to make them recognize, understand and overcome diversities. The company brought in diversity experts to train its personnel to recognize cultural variations and accommodate such differences in their work. Similar approaches were adopted by CreditCardCo and BInsurance firms as they held multiple training sessions to orient their internal employees to work in a multi-cultural environment. AInsuranceCo invested in specific training programs for improving cultural awareness among its employees. They used external consultants to educate the internal IT workforce as well as senior executives on the challenges and issues in managing distributed and diverse software teams.

> *"I had arranged for an outside consultant to come in and conduct a cultural exchange session for both IT and senior management folks. Sitting in an exchange that was facilitated by an outsider that talked about Indian customs, culture and behavior, we discovered that there was a lot of strong family orientation across our firm and the offshore vendor. We found a lot of characteristics of the Indian population through the eyes of our vendor, which was in effect very educating to our people. We had those sessions over a couple of years just to make sure we had continuous improvement."* [AInsuranceCo]

Companies like CreditCardCo periodically rotated a portion of its offshore staff to onsite work to expose them to the client firm's culture, business practices and work procedures.

> *"We rotate at least some part of the offshore staff to our local development center. When these offshore developers watch issues firsthand, they get a better understanding of the user environment, our culture, work practices and other such issues. They become more productive when they take this experience back to the offshore group."* [CreditCardCo]

Many firms utilized collaborative technologies and tools to schedule and coordinate dispersed work activities. Some of the firms we talked to used a variety of electronic tools combining instant messenger services, video-conferencing, email and custom-built web-enabled project management tools to coordinate activities between onshore and offshore staff. They found ways to integrate face-to-face tasks with technology-enabled dispersed work. For example, BInsuranceCo set up detailed strategies for incorporating collaborative technologies in their offshore outsourcing activities. The company invested in developing a customized project tracking and communications system to coordinate work between the distributed teams. The system had features like online dashboards that provided transparent access to all the project activities and other metrics. The system also enabled real-time and asynchronous communication between the distributed team members.

We found effective firms to have instituted formal communication processes for ensuring frequent and clear dialogue among dispersed members of the onsite-offshore team. They used multiple formal channels of communication such as status reports, video-conferencing, web-casts and intranets to ensure regular interactions as well as documentation of team interactions. Some

14

firms such as CreditcardCo and AInsuranceCo set up an online repository/web-portal that served as single-storage point for all project related information and communication. These formal modes were supplemented with informal ones using instant messaging, face-to-face meetings, telephonic conversations and daily verbal dialog to discuss any outstanding issues and other project matters. To improve social interaction among dispersed team members, some firms also instituted online communities. Project teams in effective firms combined formal and informal channels of communication to foster collaboration and iron out any potential problems. Some of the effective firms periodically sent their onsite managers to vendor's premises or flew down the vendor's managers to its locations that helped build a rapport among the team members.

In contrast to the above, FinServiceCo faced considerable barriers in managing distributed work. There were significant gaps in recognizing cultural differences, addressing communication break-downs and in coordinating dispersed activities. The offshore vendor-team had little communication and coordination with onsite client managers leading to several assumptions about the software being developed. Each party interpreted certain requirements differently and later discovered a serious mismatch in the expected deliverables. Further, the company also lacked any systematic project tracking mechanisms and collaboration tools that could have aided in early identification and intervention. Inadequate expertise in managing distributed projects ultimately resulted in disappointing outcomes.

4. IS Change Management

There are two broad organizational constituents typically affected by offshore outsourcing: internal IS staff and business users. Offshore initiatives can distress the internal IS staff as it can lead to layoffs and/or radical restructuring of the internal IS unit. Further, offshore outsourcing can introduce new tools, technologies, work practices, roles and responsibilities among the IS staff. IS offshore outsourcing is also likely to have an effect on user groups as it can alter their communication and coordination activities with IS personnel. For instance, end-users who had a direct link with the internal IS organization to get their requests fulfilled might no longer enjoy such direct access. Therefore, it becomes imperative for client firms to build change management capabilities to manage the changes introduced by offshore engagements.

User Change: Most executives we talked to realize the importance of changed work patterns for business users due to offshore outsourcing, and many successful firms invested in routines and processes for alleviating user concerns. At AInsuranceCo, change management was a documented issue from the very beginning, and all relevant stakeholders were involved in the change management activity.

> *"Coming from the [earlier] role of CFO, I'm sensitive to certain issues given the company's culture. I fundamentally believe that getting employees and users involved in change management from the very beginning is vital. As an organization, one needs to start thinking about issues of change, and recognize that not all change is necessarily predictable or smooth – that there are forces that drive change … that we have to be aware of."* [AInsuranceCo]

15

Companies engaging in offshore outsourcing also need to educate and convince their business users on working within the confines of an offshore arrangement. Effective firms devoted additional efforts and had a clear agenda to manage user expectations. These firms engaged in extensive communications and interactions with users to prepare them for newer changes induced by offshore outsourcing. Processes were laid out for facilitating interactions among users, internal IS staff and the offshore team. These firms created newer routines for facilitating the interactions of users with the offshore team. In some instances, users were also given training on cultural diversities to lessen the hurdles in working with offshore personnel.

> *"Now, the users couldn't simply show up at our desk and ask for a new report. We had to tell them to plan in advance what their requirements were going to be. We also had new procedures – they had to file a request, and if it didn't get attention within 48 hours they could contact one of our managers." [StateAgency]*

IS Organization Change: Most of the firms we studied downsized their IS staff or re-scaled their IS units during their offshore outsourcing efforts. In many instances, actions such as layoffs could have drastic impact on existing staff, as this quote illustrates:

> *"Some of the employees were getting the pink-slip because of offshore outsourcing. Their buddies are now working with us. You now have a situation where the fox is watching the hen house. The company should have invested in addressing these issues, because the employees were really afraid." [ManufactureCo]*

However, the effective firms had well-established processes for dealing with these changes. In some cases like DrugCo, the firm announced a special attrition plan that provided incentives for IS staff opting for pre-retirement. The company also made transition plans that helped re-skill existing employees for addressing knowledge losses due to departed staff. In other firms, there was a conscious effort to re-train the IS staff to be affected by offshore outsourcing and utilize them in other areas. The HR managers and IS executives at RetailCo spent several weeks to formulate multiple skill-matrices, mapping the IS employee skill-sets to the skill requirement in different areas. This process helped them identify employees that needed additional training, and those that could be directly transferred to other units.

In offshore outsourcing initiatives that typically involve elimination of jobs or reshuffling of internal IS staff, companies must reassure remaining employees and motivate them to contribute and perform. As evidenced in effective firms (See side-bar), open communication, training and outplacement services, and related support sent a strong positive signal to employees and helped them understand, get involved, and participate actively in the change process.

16

How a Global Retailer Managed Change During Offshore Outsourcing

A large global retail firm, with several shops in airports and hotels around the world, was considering moving a major portion of its application development offshore. This implied laying-off a significant portion of the IT/IS workforce, yet staff retention was vital because of the need for transferring critical knowledge from affected workers to other staff and the vendor. Knowledge transfer was a serious concern since the company lacked sufficient documentation.

> *"We had to worry about perceptions of internal staff, external stakeholders as well as the community…. We also wrestled with 'telling-them-now' or 'tell them at the last minute'. There was staff who had to be cut but whose knowledge had to be transferred. We tussled with how to convince them to stay for a specific time period….. We significantly increased their bonuses if they stayed for a time period to productively transfer the knowledge they had ….. I personally met with everyone who was going to leave our company. We told people well in advance that layoffs were coming. The employees, though discontent, were happy that we told them the truth. In addition, we gave them some runway and also provided significant support for them to find new jobs. That was key – to be honest and open, and offer additional support"*

The company adopted an open communication policy. The CEO and the senior management reached out to the employees, had proactive and open communication, and worked out a severance pay structure for employees affected by downsizing. They conducted the downsizing in multiple phases, and the employees were informed well in advance. The company also offered career transition assistance through a third party. The company formed transition teams with offshore vendor staff and internal IS employees to extract and transfer knowledge of the systems and applications before the staff were re-assigned or retrenched. The retained IT staff was trained in newer skills and tools.

Table 3 Critical Capabilities for Offshore Outsourcing		
Higher-order Capabilities	**Sub-Capabilities**	**Operational Routines**
1. Systemic Thinking on Offshore Sourcing	Capability to Strategize	• Framing guiding principles for entire offshoring effort. • Ability to distinguish core, critical and commodity applications and identify appropriate projects for offshore development
	Offshore Readiness	• Ability to assess internal IS development activities and resources • Defining short-term and long-term objectives • Ability to set realistic expectations and win stakeholder support.

2. Global IS Vendor Management	Vendor Selection	• Offshore market scanning
		• Partner identification propensity to proactively and systematically scan potential offshore vendors
		• Ability to evaluate and assess vendors
	Contract Facilitation	• Selecting type of contract based on requirements
		• Ability to draw detailed and appropriate contracts
		• Ability to develop comprehensive SLAs
	Relationship Governance	• Structural mechanisms to ensure smoother operations of the partnerships
		• Ability to clearly allocate and articulate roles and responsibilities
		• Ability to solve problems collaboratively
		• Building trust-based relationship with vendor
3. Global IS Resource Management	HR Management	• Ability to identify, assess and allocate vendor personnel
		• Capability to assess human resource requirements for different stages of the offshore development
		• Integration of internal and vendor staff
	Knowledge Management	• Ability to partition knowledge that is to be shared with the vendor.
		• Ability to transfer knowledge transfer between client and vendor teams.
		• Ability to integrate knowledge from vendor and internal sources.
	Distributed work Management	• Ability to recognize and overcome cultural, organizational and geographical differences
		• Ability to schedule and monitor distributed projects.
		• Formal and informal channels of communication among the members of distributed teams.
		• Technological capabilities for fostering collaborative work.
4. IS Change Management	IS Organization Change	• Ability to re-scale and re-size IS organization
		• Ability to redesign internal IS operations and processes
		• Ability to re-skill and re-use internal IS resources
	User Change	• Ability to develop mechanisms for managing changed work patterns
		• Ability to detect and respond to user concerns

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18

Leveraging Offshore Outsourcing Capabilities

As companies' offshore outsourcing efforts grow in size, value and complexity, IS executives are confronting both challenges and opportunities. While offshore outsourcing provides them with much needed leverage in terms of labor cost and expertise, it inadvertently adds a layer of complexity to the management efforts. In this article, we present a framework of the critical capabilities (Figure 1) for successful offshore outsourcing, along with associated operational routines (Table 3). We also provide a capability-checklist (Table 4) that CIOs and senior executives can use to assess their company's competencies. In addition, five key lessons about the leveraging of offshore outsourcing capabilities also emerge from our study.

1. ***Adopt a systematic approach to building offshore outsourcing capabilities.*** We found many ineffective firms to take an ad-hoc approach to offshore outsourcing, dealing with them on a project-by-project basis. While such a piece-meal approach may prove to be suitable in the short-term or for one-time offshore engagements, this might be unproductive in the long-run. Effective firms in our study adopted a comprehensive and systematic approach to offshore outsourcing by paying specific attention to building capabilities, rather than focusing attention at the project-level and managing each offshore relationship separately. Hence, firms seeking to derive significant benefits from offshore outsourcing should invest in developing specific offshore sourcing capabilities.

2. ***Focus on the entire outsourcing life-cycle***. Typically, many firms spend significant effort in piecing an offshore deal together, with relatively limited focus on the post-contractual phases of the offshore arrangement. In fact, many sourcing failures are more likely to be noticed only during the implementation (or post-implementation) stages. However, if the initial stages are executed badly due to lack of certain capabilities, there is little chance that the implementation will be successful. On the flip side, absence or inadequacy of capabilities critical for implementation could very well derail the chances for a successful outcome, despite better strategizing and partner selection efforts. Our framework encompasses capabilities for the entire life cycle – both for the initial stages involving strategy formulation, partner selection and contracting as well as for later stages of implementation and relationship development. Strong competencies in one stage cannot compensate for weaknesses in other stages. Therefore, it becomes imperative for managers to focus on capabilities across the entire lifecycle of the offshore outsourcing effort.

3. ***Recognize the dynamic nature of capabilities.*** Experience of effective firms in our study shows that offshore outsourcing capabilities are dynamic in nature and are constantly evolving. The winner's curse, wherein complacency and inertia sets in after attaining certain level of success, is something that the CIOs should carefully watch out for. The offshore environment is very vibrant, with both anticipated and unanticipated changes in the offshore and domestic markets. Since the performance of a domestic project is dependent on IT market conditions in a distant country, complacency in client firms could mean poor adjustments or lack of adequate response to changing conditions in offshore environment. Firms should continually invest in learning, building and sustaining offshore outsourcing capabilities in response to changing organizational and environmental contexts.

19

4. ***Invest in structure and people.*** Many firms tend to underestimate the importance of organizational structures and human resources required for building and sustaining the set of offshore outsourcing capabilities. Since the processes, routines, roles and responsibilities that ultimately determine offshore project performance are spread across client and vendor organizations, the need for clear governance is critical in offshore outsourcing arrangements. As the experience of effective firms in our study demonstrates, structures such as sourcing office and PMO that encompass cross-functional and cross-organizational expertise can provide a fertile ground for building offshore outsourcing capabilities. In addition, cultivating and nurturing boundary-spanners such as program managers and relationship leaders across the IS/business units as a regular part of companywide processes could greatly help in addressing offshore challenges.

5. ***Perform a periodic capabilities audit.*** Performing a periodic assessment of offshore outsourcing capabilities will help IS executives gauge how well a company delivers on these capabilities, determine the relative importance of the capabilities based on the company's experience and stage of offshore development lifecycle, identify weaknesses and prepare an action plan for improvement. Some of the effective firms had engaged in detailed assessment of their sourcing opportunities and options. However, a capabilities audit will uncover an extensive list of factors that will have most direct impact on their offshore effectiveness. In this regard, the checklist in Table 4 should serve as a useful tool for such an assessment

As the experiences of our case study firms illustrate, IS offshore outsourcing should not be treated merely as another IS project to be handled. Offshore outsourcing induces new layers of activities, routines and changes that require constant oversight and special attention. Companies must invest in building the critical capabilities that are important for successful execution of their offshore efforts. The capabilities-framework outlined in this article can help IS managers plan their offshore endeavors and determine how best to attain their offshore sourcing goals[20].

Table. 4 A Checklist for Assessing Offshore Outsourcing Capabilities	
Capabilities	**Checklist Items**
Capability to Strategize	1. Is offshore outsourcing an integral part of our IT strategy? 2. Is our top management routinely involved in the offshore decision-making? 3. Do we have clear specific guiding principles for how to conduct offshore outsourcing? 4. Do we have realistic expectations about cost savings from offshore outsourcing? 5. Do we have clear procedures for evaluating which functions to keep in-house and which to offshore? 6. Do we routinely consider multiple vendors and/or multiple locations for risky projects?
Offshore Readiness	1. Do we have a clear idea about in-house costs of existing IT activities and services? 2. Do we have clear goals for offshore outsourcing? 3. Can we quickly alter our offshoring arrangement characteristics e.g. size, duration, if outcomes are not as expected? 4. Do all the key organizational stakeholders support offshore outsourcing?
Vendor Selection	1. Do we continuously update our knowledge of offshore vendors e.g., through trade publications and conferences? 2. Do we constantly learn about best practices in vendor selection and governance? 3. Do we have clear procedures for selecting offshore vendors e.g., RFPs, country visits? 4. Do we have standard processes to evaluate if vendor matches our needs e.g., location, expertise? 5. Do we ensure that vendor matches our values, goals and objectives?
Contract Facilitation	1. Can we effectively negotiate pricing for the global context? 2. Do we have clear procedures for negotiating SLAs? 3. Can we establish safeguards to protect our proprietary information from possible leaks? 4. Can we ensure that unanticipated legal issues will be handled in our country? 5. Can we clearly assign roles and responsibilities for domestic and offshore personnel? 6. Do we establish specific offices, liaisons for offshore outsourcing?
Relationship Governance	1. Can we adapt to the business practices, norms in the vendor country? 2. Can we adapt to the offshore vendor's "way of doing things"? 3. Do we invest resources to understand the culture in the vendor country? 4. Do we organize events and training programs to alleviate cultural differences? 5. Do we ensure the offsite team members are actively involved in the arrangement? 6. Do we foster friendly relationships with the onsite personnel through informal meetings and social events?
HR Management	1. Do we have standard processes to determine percentage of vendor personnel needed onsite e.g., 30:70 rule? 2. Can we effectively 'interview' new vendor personnel to recruit for our onsite needs? 3. Can we effectively collocate with vendor personnel based on the stage of the project? 4. Can we create joint teams of our personnel and vendor personnel to manage global team members? 5. Do we assign joint leadership for certain aspects of the offshore outsourcing project?
Knowledge Management	1. Do we have standard processes for transferring knowledge across global locations? 2. Do we retain and encourage our "Knowledge Experts" (key IT personnel) for knowledge transfer? 3. Do we have necessary IT infrastructure e.g., online conferences that support global knowledge transfer? 4. Do we facilitate knowledge integration between client and vendor team members e.g., through online communication tools? 5. Do we have standard processes and IT infrastructure (e.g., KMS) to manage knowledge i.e.,

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	capture, store, share and exploit knowledge from other projects?
Distributed Work Management	1. Do we use 24/7 development to our advantage? 2. Do we meet regularly with global team members to coordinate efforts? 3. Do we ensure that electronic meetings are balanced with periodic face-to-face contacts? 4. Do we use advanced communication and coordination tools, e.g., videoconferencing and web-based collaboration tools? 5. Do we post offshore updates regularly on the company intranet or on the web?
IS Organization Change	1. Can we quickly incorporate changing work patterns to match offshore outsourcing demands? 2. Can we quickly 'ramp-up' our existing processes to match offshore outsourcing demands? 3. Do we provide good incentives to our IS personnel to move to other firms, as part of restructuring? 4. Do we effectively re-skill our IS personnel, to accommodate offshoring demands? 5. Do we regularly communicate with our existing IS personnel, to remove any negative reactions to offshoring?
User Change	1. Are we prepared for changes in our organization due to offshore outsourcing? 2. Do we clearly communicate the pros and cons of offshore outsourcing to our employees? 3. Do we address employee concerns about offshoring e.g., directly interacting with vendor personnel located elsewhere? 4. Do we quickly address anxiety or anger towards offshoring and/or offshore vendor personnel?

Firm Name	Firm Profile	Description of Offshore Application Projects	Number of Interviewees and their Titles

Effective Firms

Firm Name	Firm Profile	Description of Offshore Application Projects	Number of Interviewees and their Titles
CableCo	A global distributor of communication products including electrical and electronic wires and cables.	Online order processing and management system.	2: CIO, Project Manager
ConsultCo	A leading global management consulting firm providing corporate advisory services.	Significant portion of internal IT application development.	1: Associate Partner
CreditCardCo	Global credit card firm that also provides other lending services such as mortgages, auto and home loans and insurance.	Applications for managing large-scale transactions	2: IS Managers
DrugCo	Large global pharmaceutical company that manufactures and sells drugs and diagnostic products.	Development of sales and marketing applications.	3: Vice President - IS Strategy; Director of Applications, Project Manager
ElectronicsCo	Large manufacturers of telecommunications and mobile devices.	Planning and scheduling system for new products.	2: Director of IT, Project Manager
GlobalRetailCo	One of the global retail companies that sells luxury goods such as perfumes, jewelry and high-end branded items.	Merchandising and inventory tracking system .	3: CIO, IS Director, Project Manager
HomeRetailCo	Global specialty retailer that sells home-related hardware products and tools.	Datawarehousing application IT applications for retail operations	3: CIO, Director of Applications, IS Manager.
AInsuranceCo	One of the large insurance firms that provides life, and health insurances and annuities.	Development of insurance claims processing application.	2: CIO, Vice President-IT
BInsuranceCo	Large insurance company that provides property & casualty insurance, life, auto and homeowners insurance services.	Customer policy management system.	3: CTO, Vice President of IT, Project Manager

Firm Name	Firm Profile	Description of Offshore Application Projects	Number of Interviewees and their Titles
MediCo	Medium Regional hospital with significant share in local market	Web-based marketing system	3: CIO, Chief Medical Officer, Project Manager
RealEstate Co	A regional real estate firm that owns and manages several commercial and residential properties.	Property management system.	1: Director of Information Technology & Systems
RetailCo	Large retail organization with nation-wide stores that sells a range of products from jewelry, clothing to tools and kitchenware.	Development of replacement to legacy applications that were becoming outdated	4: Vice President of IS, Director of IS Sourcing, IS Manager, Project Manager
ServiceCo	One of the largest global services company that provides administrative and other back office services.	[Project 2] Web-based client management system.	2: CIO, IS Director
StateAgency	Government agency providing a range of services to citizens.	E-commerce solution for online transactions by citizens.	2: CIO, IS Manager

<div align="center">Ineffective Firms</div>

Firm Name	Firm Profile	Description of Offshore Application Projects	Number of Interviewees and their Titles
FinServiceCo	Investment banking firm offering a variety of financial and corporate advisory services.	Portfolio and asset management application.	1: Vice President of IS
GardenCo	National company that sells seeds, plants, gardening tools and supplies.	Establishing a new e-commerce portal for the brick-and-mortar store	1: IS Manager
ManufactureCo	A large manufacturer of telecommunications devices and equipment.	Development of web portal.	2: Director of IS, Consultant
MarketCo	Medium-sized, specialty retailer selling novelty items, arts, sports and other memorabilia.	Establishing a new e-commerce portal for the brick-and-mortar store	1: IS Manager
ServiceCo	One of the largest global services company that provides administrative and other back office services.	[Project 1]Development of a new requirements gathering tool for client management.	2: CIO, IS Director